

09/578, 693  
Updated Search  
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(FILE 'HOME' ENTERED AT 11:03:00 ON 07 JAN 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT  
11:03:18 ON 07 JAN 2005

L1           16 S (PLASMA FABP)  
L2           6 DUPLICATE REMOVE L1 (10 DUPLICATES REMOVED)  
L3           0 S L2 AND LIVER?  
L4           352 S (LIVER FABP)  
L5           23 S L4 AND PLASMA?  
L6           10 DUPLICATE REMOVE L5 (13 DUPLICATES REMOVED)

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=>

ANSWER 9 OF 10 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on  
STN DUPLICATE 5

AN 1989:241079 BIOSIS  
DN PREV198987122144; BA87:122144  
TI DISTRIBUTION OF FATTY ACID BINDING PROTEINS IN TISSUES AND **PLASMA**  
OF GALLUS-DOMESTICUS.  
AU COLLINS D M [Reprint author]; HARGIS P S  
CS DEP POULTRY SCI, TEX AGRIC EXPERIMENT STATION, TEX A AND M UNIV SYSTEM,  
COLLEGE STATION, TEX 77843-2472, USA  
SO Comparative Biochemistry and Physiology B, (1989) Vol. 92, No. 2, pp.  
283-290.  
CODEN: CBPBB8. ISSN: 0305-0491.  
DT Article  
FS BA  
LA ENGLISH  
ED Entered STN: 20 May 1989  
Last Updated on STN: 20 May 1989  
AB 1. Fatty acid binding activity associated with a 14,000-15,000 mol. wt  
protein was observed in the cytosolic fraction of liver, duodenum,  
myocardium, adipose pectoral and gastrocnemius muscles of chickens. 2.  
Polyclonal antisera prepared against chicken liver fatty acid binding  
protein exhibited affinity for only **liver FABP** and a  
14,000 mol. wt fatty acid binding protein in the intestine. 3. A fatty  
acid binding protein was not detected in chicken **plasma**.  
CC Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Lipids 10066  
Biophysics - Molecular properties and macromolecules 10506  
Metabolism - Proteins, peptides and amino acids 13012  
Digestive system - Physiology and biochemistry 14004  
Cardiovascular system - Physiology and biochemistry 14504  
Blood - Blood and lymph studies 15002  
Muscle - Physiology and biochemistry 17504  
Bones, joints, fasciae, connective and adipose tissue - Physiology and  
biochemistry 18004  
IT Major Concepts  
    Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport  
    and Circulation); Cardiovascular System (Transport and Circulation);  
    Digestive System (Ingestion and Assimilation); Metabolism; Muscular  
    System (Movement and Support); Skeletal System (Movement and Support)  
IT Miscellaneous Descriptors  
    LIVER DUODENUM MYOCARDIUM MUSCLE BINDING SPECIFICITY  
ORGN Classifier  
    Galliformes 85536  
Super Taxa  
    Aves; Vertebrata; Chordata; Animalia  
Taxa Notes  
    Animals, Birds, Chordates, Nonhuman Vertebrates, Vertebrates

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Biochemistry studies - Lipids 10066  
Biophysics - Molecular properties and macromolecules 10506  
Metabolism - Proteins, peptides and amino acids 13012  
Digestive system - Physiology and biochemistry 14004  
Cardiovascular system - Physiology and biochemistry 14504  
Blood - Blood and lymph studies 15002  
Muscle - Physiology and biochemistry 17504  
Bones, joints, fasciae, connective and adipose tissue - Physiology and  
biochemistry 18004  
IT Major Concepts  
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport  
and Circulation); Cardiovascular System (Transport and Circulation);  
Digestive System (Ingestion and Assimilation); Metabolism; Muscular  
System (Movement and Support); Skeletal System (Movement and Support)  
IT Miscellaneous Descriptors  
LIVER DUODENUM MYOCARDIUM MUSCLE BINDING SPECIFICITY  
ORGN Classifier  
Galliformes 85536  
Super Taxa  
Aves; Vertebrata; Chordata; Animalia  
Taxa Notes  
Animals, Birds, Chordates, Nonhuman Vertebrates, Vertebrates

ANSWER 3 OF 10 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on  
STN DUPLICATE 3

AN 1997:305166 BIOSIS  
DN PREV199799612969

TI Fatty acid binding proteins reduce 15-lipoxygenase-induced oxygenation of linoleic acid and arachidonic acid.

AU Ek, Bengt A. [Reprint author]; Cistola, David P.; Hamilton, James A.; Kaduce, Terry L.; Spector, Arthur A.

CS Dep. Biochem., Univ. Iowa, College Med., Iowa City, IA 52242, USA

SO Biochimica et Biophysica Acta, (1997) Vol. 1346, No. 1, pp. 75-85.  
CODEN: BBACAO. ISSN: 0006-3002.

DT Article  
LA English  
ED Entered STN: 26 Jul 1997  
Last Updated on STN: 26 Jul 1997

AB Free fatty acids in **plasma** and cells are mainly bound to membranes and proteins such as albumin and fatty acid binding proteins (FABP), which can regulate their biological activities and metabolic transformations. We have investigated the effect of FABP and albumin on the peroxidation of linoleic acid (18:2) and arachidonic acid (20:4) by 15-lipoxygenase (15-LO). Rabbit reticulocyte 15-LO produced a rapid conversion of (1-14C)18:2 to 13-hydroxyoctadecadienoic acid (13-HODE) and (3H)20:4 to 15-hydroxyeicosatetraenoic acid (15-HETE). 13-HODE formation was reduced when intestinal FABP (1-FABP), **liver FABP** (L-FABP) or albumin was added. The relative ability of these proteins to reduce 15-LO induced formation of 13-HODE and 15-HETE was BSA > L-FABP > I-FABP. Smaller reductions in activity were observed with 20:4 as compared to 18:2. The IC-50-values of I-FABP and L-FABP, using either 18:2 (3.4 AM) or 20:4 (3.4 μM), were 4.6 ± 0.6 and 1.9 ± 0.2 AM, respectively, for reduction of 13-HODE and 6.8 ± 0.3 and 3.1 ± 0.2 μM, respectively, for reduction of 15-HETE formation. The smaller 15-HETE reduction correlated with decreased binding of 20:4 to the FABP. Titration calorimetry also showed that the I-FABP IC-50 for 18:2, 0.25 μM, was lower than for 20:4, 0.6 μM. Thus the reduction in fatty acid lipid peroxidation relates to the binding capacity of each FABP. We also demonstrated that 18:2 rapidly diffuses (flip-flops) across the phospholipid bilayer of small unilamellar vesicles (SUV) and measured partitioning of 18:2 between proteins and SUV by the pyranin fluorescence method (Kamp, F. and Hamilton, J.A. (1992) Proc. Natl. Acad. Sci. U.S.A. 89, 11367-11370). Addition of proteins to SUV in buffer resulted in a complete desorption of 18:2 from SUV with a relative effect of BSA > L-FABP > I-FABP. This suggests that the relative effects of these proteins on 18:2 peroxidation will not be altered by the presence of membranes. Our results indicate that FABPs protect intracellular polyunsaturated fatty acids against peroxidation and, through differential binding of 18:2 and 20:4, they may modulate the availability of these polyunsaturated fatty acids to intracellular oxidative pathways.

CC Cytology - Animal 02506  
Biochemistry studies - Lipids 10066  
Biophysics - Membrane phenomena 10508  
Enzymes - Chemical and physical 10806  
Metabolism - Lipids 13006

IT Major Concepts  
Biochemistry and Molecular Biophysics; Cell Biology; Enzymology  
(Biochemistry and Molecular Biophysics); Membranes (Cell Biology);  
Metabolism

IT Chemicals & Biochemicals  
15-LIPOXYGENASE; LINOLEIC ACID; ARACHIDONIC ACID

IT Miscellaneous Descriptors  
ARACHIDONIC ACID; FATTY ACID; FATTY ACID-BINDING PROTEIN; LINOLEIC ACID; LIPID; MEMBRANES; METABOLISM; OXIDATION; OXYGENATION;  
15-LIPOXYGENASE

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STN DUPLICATE 3

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CC Cytology - Animal 02506

Biochemistry studies - Lipids 10066

Biophysics - Membrane phenomena 10508

Enzymes - Chemical and physical 10806

Metabolism - Lipids 13006

IT Major Concepts

Biochemistry and Molecular Biophysics; Cell Biology; Enzymology  
(Biochemistry and Molecular Biophysics); Membranes (Cell Biology);  
Metabolism

IT Chemicals & Biochemicals

15-LIPOXYGENASE; LINOLEIC ACID; ARACHIDONIC ACID

IT Miscellaneous Descriptors

ARACHIDONIC ACID; FATTY ACID; FATTY ACID-BINDING PROTEIN; LINOLEIC ACID; LIPID; MEMBRANES; METABOLISM; OXIDATION; OXYGENATION;  
15-LIPOXYGENASE

ORGN Classifier  
Leporidae 86040  
Super Taxa  
Lagomorpha; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
rabbit  
Taxa Notes  
Animals, Chordates, Lagomorphs, Mammals, Nonhuman Vertebrates, Nonhuman  
Mammals, Vertebrates  
RN 82249-77-2 (15-LIPOXYGENASE)  
60-33-3 (LINOLEIC ACID)  
506-32-1 (ARACHIDONIC ACID)

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ORGN Classifier  
Leporidae 86040  
Super Taxa  
Lagomorpha; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
rabbit  
Taxa Notes  
Animals, Chordates, Lagomorphs, Mammals, Nonhuman Vertebrates, Nonhuman  
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506-32-1 (ARACHIDONIC ACID)

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NSWER 1 OF 10 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on  
STN DUPLICATE 1

AN 2003:81756 BIOSIS  
DN PREV200300081756

TI **Plasma** concentration of intestinal- and liver-  
**FABP** in neonates suffering from necrotizing enterocolitis and in  
healthy preterm neonates.

AU Guthmann, Florian [Reprint Author]; Boerchers, Torsten; Wolfrum,  
Christian; Wustrack, Thomas; Bartholomaeus, Sabine; Spener, Friedrich

CS Department of Neonatology, Charite Campus Mitte, D-10098, Berlin, Germany  
florian.guthmann@charite.de

SO Molecular and Cellular Biochemistry, (October 2002) Vol. 239, No. 1-2, pp.  
227-234. print.  
ISSN: 0300-8177 (ISSN print).

DT Article  
LA English  
ED Entered STN: 6 Feb 2003  
Last Updated on STN: 6 Feb 2003

AB Both early diagnostic and prognostic assessment of the acute abdomen in preterm infants are hampered by the lack of a sensitive and specific parameter for intestinal injury. In this prospective clinical study we wanted to estimate the value of intestinal (I-) and liver (L-) fatty acid binding protein (FABP) in diagnosing necrotizing enterocolitis (NEC). Using highly sensitive and specific sandwich ELISAs which employ recombinant human I- and L-FABP as standard proteins (limit of detection 0.1 ng/ml **plasma**), the L-FABP concentration (median 7.6 ng/ml) was determined to be about 3 fold that of I-FABP (median 2.52 ng/ml) in **plasma** of healthy preterm infants. I- and L-FABP concentrations significantly increased with birth weight (1.6 and 5.0 ng/ml per kg, respectively). At onset of symptoms, I-FABP concentration was significantly higher in infants who later developed severe NEC compared to healthy infants and those, whose illness remained confined to stage I or II. L-FABP was significantly elevated compared to the control group at onset of symptoms regardless of the further course of NEC. In conclusion, I-FABP appears to be a specific parameter for early detection of intestinal injury leading to severe NEC stage III. L-FABP, however, is a promising sensitive marker even for stage I of NEC.

CC Pathology - Diagnostic 12504  
Digestive system - Physiology and biochemistry 14004  
Digestive system - Pathology 14006  
Blood - Blood and lymph studies 15002  
Blood - Blood cell studies 15004  
Pediatrics 25000  
Medical and clinical microbiology - Bacteriology 36002

IT Major Concepts  
Gastroenterology (Human Medicine, Medical Sciences); Infection;  
Pediatrics (Human Medicine, Medical Sciences)

IT Parts, Structures, & Systems of Organisms  
intestine: digestive system; **plasma**: blood and lymphatics

IT Diseases  
necrotizing enterocolitis: bacterial disease, digestive system disease,  
diagnosis  
Enterocolitis, Necrotizing (MeSH)

IT Chemicals & Biochemicals  
intestinal-fatty acid binding protein

ORGN Classifier  
Hominidae 86215  
Super Taxa  
Primates; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
human (common): newborn, premature  
Taxa Notes

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Digestive system - Pathology 14006  
Blood - Blood and lymph studies 15002  
Blood - Blood cell studies 15004  
Pediatrics 25000  
Medical and clinical microbiology - Bacteriology 36002

IT Major Concepts  
Gastroenterology (Human Medicine, Medical Sciences); Infection;  
Pediatrics (Human Medicine, Medical Sciences)

IT Parts, Structures, & Systems of Organisms  
intestine: digestive system; **plasma**: blood and lymphatics

IT Diseases  
necrotizing enterocolitis: bacterial disease, digestive system disease, diagnosis  
Enterocolitis, Necrotizing (MeSH)

IT Chemicals & Biochemicals  
intestinal-fatty acid binding protein

ORGN Classifier  
Hominidae 86215  
Super Taxa  
Primates; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
human (common): newborn, premature  
Taxa Notes

**Animals, Chordates, Humans, Mammals, Primates, Vertebrates**

**Animals, Chordates, Humans, Mammals, Primates, Vertebrates**